

**CLAIMS**

1. Process for manufacturing a fragmented layer of material (14) on a support, characterised in  
5 that it comprises:

- a deposition step for depositing a thin layer (14) of this material on said support, in a discontinuous manner,

- followed by a step for putting this thin  
10 layer into drops.

2. Process according to claim 1, wherein putting into drops is achieved by heat treatment.

15 3. Process according to claim 1, wherein putting into drops is achieved by hydrogen plasma treatment at low temperature.

4. Process according to any of claims 1 to  
20 4, comprising a previous step for depositing a thermal or diffusion barrier layer (12).

5. Process according to claim 4, the thermal or diffusion barrier layer (12) being made of  
25 TiN, the material being nickel.

6. Process according to any of claims 1 to 5, wherein the material is a metal.

30 7. Process according to one of claims 1 to 6, the deposition step of the material layer being

performed in the presence of an oxygen partial pressure.

8. Growth process of carbon nanotubes or  
5 nanofibres, comprising:

- production of a catalytic metal layer according to any of claims 1 to 7,
- growth of nanotubes or nanofibres on the catalyst layer thus obtained.

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9. Process according to claim 8, the growth of nanotubes or nanofibres being obtained by chemical vapour phase deposition.

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10. Process for producing a surface with controlled roughness on a support, comprising:

- production of a fragmented thin layer of material on this support, according to any of claims 1 to 7.

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11. Process according to claim 10, further comprising:

- formation of an oxide layer on the material layer thus formed;

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- a polishing step.

12. Process for producing a metal/oxide mix on the surface of a support, including:

- production of a fragmented thin layer of  
30 a metallic material on this support, according to any of claims 1 to 7.

- formation of an oxide layer on the layer  
of material thus formed,

- a polishing step.